



033352-010.ST25

SEQUENCE LISTING

<110> Cruz, Tony
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Turley, Eva A.

<120> Compositions and Methods for Treating Cellular Response to
Injury and Other Proliferating Cell Disorders Regulated by
Hyaladherin and Hyaluronans

<130> 033352-010

<140> US 09/978,309

<141> 2001-10-15

<150> US 09/685,010

<151> 2000-10-05

<150> US 09/541,522

<151> 2000-04-03

<150> US 60/127,457

<151> 1999-04-01

<160> 83

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<223> Peptide that binds a hyalauronan

<221> VARIANT

<222> (1)...(5)

<223> Xaa = any amino acid

<221> HELIX

<222> (1)...(5)

<223> Alpha-helix

<221> VARIANT

<222> (6)...(8)

<223> Xaa = Lysine or Arginine

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<221> VARIANT

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<223> Xaa = any amino acid

<221> HELIX

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<223> Alpha-helix

<221> VARIANT

<222> 6

<223> Xaa = Lysine or Arginine

<221> VARIANT

<222> 7

<223> Xaa = Hydrophobic or neutral amino acid consisting
of I, L, V, Q, S

<221> VARIANT

<222> (8)...(9)

<223> Xaa = Lysine or Arginine

<221> VARIANT

<222> (10)...(10)

<223> Xaa = Hydrophobic or neutral amino acid consisting
of I, L, V, Q, S

<221> VARIANT

<222> (11)...(11)

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 <223> Xaa = Lysine or Arginine

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<221> VARIANT
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 of I, L, V, Q, S

<221> VARIANT
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<400> 6
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<223> Alpha-helix

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Met Met Thr Val Leu Lys Val Lys Val Lys Arg Lys
1 5 10

<210> 9

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<223> Alpha-helix

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<400> 12
 Val Ser Ile Glu Lys Glu Lys Ile Asp Glu Lys Ser
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 (Transient Activator of MAP kinases)

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 <213> Mus musculus

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 Val Gln Leu Glu Gly Lys Leu
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<210> 15
 <211> 14
 <212> PRT
 <213> Mus musculus

<400> 15
 Lys Leu Gln Ala Thr Gln Lys Asp Leu Thr Glu Ser Lys Gly
 1 5 10

<210> 16
 <211> 25
 <212> PRT
 <213> Mus musculus

<400> 16
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 Leu Leu Glu Tyr Ile Gln Glu Ile Ser
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<210> 17
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 <212> PRT
 <213> Mus musculus

<220>
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<400> 17
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<210> 18
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 <213> Homo sapien

<400> 18
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<210> 19
 <211> 14
 <212> PRT
 <213> Homo sapien

<400> 19
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 1 5 10

<210> 20
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 <212> PRT
 <213> Mus musculus

<400> 20
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 1 5 10

<210> 21
 <211> 14
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 <213> Mus musculus

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 Lys Glu Leu Lys Gln
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<210> 23
 <211> 20
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 <213> Homo sapien

<400> 23
 Glu Ser Thr Asn Gln Glu Tyr Ala Arg Met Val Gln Asp Leu Gln Asn
 1 5 10 15
 Arg Ser Thr Leu
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<210> 24
 <211> 11
 <212> PRT
 <213> Homo sapien

<400> 24
 Lys Leu Arg Ser Gln Leu Val Lys Arg Lys Gln
 1 5 10

<210> 25
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<223> Scrambled hyalauron binding peptide

<400> 25

Arg Gln Lys Val Leu Lys Arg Gln Leu Lys Ser
1 5 10

<210> 26

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide that binds a hyalauronan

<400> 26

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<210> 27

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<223> Peptide that binds a hyalauronan

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<210> 28

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<221> VARIANT

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<223> Xaa = Any amino acid other than an acidic amino acid

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<222> (2)...(8)

<223> Alpha-helix

<221> VARIANT

<222> 9

<223> Xaa = Any basic amino acid

<400> 28

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<223> Xaa = any amino acid other than an acidic amino acid

<221> VARIANT

<222> (10)...(11)

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<220>
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 1 5 10

<210> 32
 <211> 10
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<220>
 <223> Peptide composition that binds a hyalauronan

<400> 32
 Arg Tyr Pro Ile Ser Arg Pro Arg Lys Arg
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<210> 33
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<220>
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<400> 33
 Lys Asn Gly Arg Tyr Ser Ile Ser Arg
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<210> 34
 <211> 13
 <212> PRT
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<220>
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<400> 34
 Arg Asp Gly Thr Arg Tyr Val Gln Lys Gly Glu Tyr Arg
 1 5 10

<210> 35
 <211> 9
 <212> PRT
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<220>
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 1 5

<210> 36
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 Arg Gly Thr Arg Ser Gly Ser Thr Arg
 1 5

<210> 37
 <211> 12
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<220>
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<400> 37
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 1 5 10

<210> 38
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 <212> PRT
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<220>
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<400> 38
 Arg Lys Ser Tyr Gly Lys Tyr Gln Gly Arg
 1 5 10

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 Lys Val Gly Lys Ser Pro Pro Val Arg

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Lys Thr Phe Gly Lys Met Lys Pro Arg
1 5

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<223> Peptide composition that binds a hyalauronan

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Arg Ile Lys Trp Ser Arg Val Ser Lys
1 5

<210> 42
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<223> Peptide composition that binds a hyalauronan

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Lys Arg Thr Met Arg Pro Thr Arg Arg
1 5

<210> 43
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Lys Val Gly Lys Ser Pro Pro Val Arg
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<210> 44
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<212> PRT

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His Arg Glu Ala Arg Ser Gly Lys Tyr Lys
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<210> 45

<211> 588

<212> DNA

<213> Homo sapien

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gtg gtc tcc cca acc ttt gaa ctt aca aat ctt cta aat cat cct gac 96
 Val Val Ser Pro Thr Phe Glu Leu Thr Asn Leu Leu Asn His Pro Asp
 20 25 30

cat tat gta gaa aca gag aac att cag cat ctc aca gac ccg gct cta 144
 His Tyr Val Glu Thr Glu Asn Ile Gln His Leu Thr Asp Pro Ala Leu
 35 40 45

gca cat gtg gat aga ata agc caa gcc cgg aaa ctg agt atg gga tct 192
 Ala His Val Asp Arg Ile Ser Gln Ala Arg Lys Leu Ser Met Gly Ser
 50 55 60

gat gat gct gcc tac aca caa gct ctg ctg gtg cac cag aag gcc aag 240
 Asp Asp Ala Ala Tyr Thr Gln Ala Leu Leu Val His Gln Lys Ala Lys
 65 70 75 80

atg gaa cgg ctt caa aga gag ctc gag atg caa aag aaa aag ctg gat 288
 Met Glu Arg Leu Gln Arg Glu Leu Glu Met Gln Lys Lys Lys Leu Asp
 85 90 95

aaa ctc aaa tct gag gtc aat gag atg gaa aat aat cta act cga agg 336
 Lys Leu Lys Ser Glu Val Asn Glu Met Glu Asn Asn Leu Thr Arg Arg
 100 105 110

cgc ctg aag aga tca aat tcc att tcc cag ata ccg tca ctc gaa gaa 384
 Arg Leu Lys Arg Ser Asn Ser Ile Ser Gln Ile Pro Ser Leu Glu Glu
 115 120 125

atg cag cag ttg aga agt tgt aat aga caa ctc cag att gac att gac 432
 Met Gln Gln Leu Arg Ser Cys Asn Arg Gln Leu Gln Ile Asp Ile Asp
 130 135 140

ttt gac tgc tta acc aaa gaa att gca tct ttt tca agc ccg agg acc 480
 Phe Asp Cys Leu Thr Lys Glu Ile Ala Ser Phe Ser Ser Pro Arg Thr
 145 150 155 160

aca ttt taaccccagc gctattcata acttttatga caatattgga tttgtaggcc 536
 Thr Phe

ctgtgccacc aaaacccaaa gatcaaaggt ccaccatcaa aggtcgacgc gg 588

<210> 46
 <211> 162
 <212> PRT
 <213> Homo sapien

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 Val Val Ser Pro Thr Phe Glu Leu Thr Asn Leu Leu Asn His Pro Asp
 20 25 30
 His Tyr Val Glu Thr Glu Asn Ile Gln His Leu Thr Asp Pro Ala Leu
 35 40 45
 Ala His Val Asp Arg Ile Ser Gln Ala Arg Lys Leu Ser Met Gly Ser
 50 55 60
 Asp Asp Ala Ala Tyr Thr Gln Ala Leu Leu Val His Gln Lys Ala Lys
 65 70 75 80
 Met Glu Arg Leu Gln Arg Glu Leu Glu Met Gln Lys Lys Lys Leu Asp
 85 90 95
 Lys Leu Lys Ser Glu Val Asn Glu Met Glu Asn Asn Leu Thr Arg Arg
 100 105 110
 Arg Leu Lys Arg Ser Asn Ser Ile Ser Gln Ile Pro Ser Leu Glu Glu
 115 120 125
 Met Gln Gln Leu Arg Ser Cys Asn Arg Gln Leu Gln Ile Asp Ile Asp
 130 135 140
 Phe Asp Cys Leu Thr Lys Glu Ile Ala Ser Phe Ser Ser Pro Arg Thr
 145 150 155 160
 Thr Phe

<210> 47
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 <212> PRT
 <213> Homo sapien

<400> 47
 Pro Met Ser Phe Pro Lys Ala Pro Leu Lys Arg Phe Asn Asp Pro Ser
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 20 25 30
 Lys Gly Pro Val Ser Phe Gln Lys Ser Gln Arg Phe Lys Gln Gln Lys
 35 40 45
 Glu Ser Lys Gln Asn Leu Asn Val Asp Lys Asp Thr Thr Leu Pro Ala
 50 55 60
 Ser Ala Arg Lys Val Lys Ser Ser Glu Ser Lys Lys Glu Ser Gln Lys
 65 70 75 80
 Asn Asp Lys Asp Leu Lys Ile Leu Glu Lys Glu Ile Arg Val Leu Leu

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Leu	Glu	Lys	Met	Glu	Ala	Arg	Leu	Asn	Ala	Ala	Leu	Arg	Glu	Lys	Thr
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Ser	Leu	Ser	Ala	Asn	Asn	Ala	Thr	Leu	Glu	Lys	Gln	Leu	Ile	Glu	Leu
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Thr	Arg	Thr	Asn	Glu	Leu	Leu	Lys	Ser	Lys	Phe	Ser	Glu	Asn	Gly	Asn
145					150					155					160
Gln	Lys	Asn	Leu	Arg	Ile	Leu	Ser	Leu	Glu	Leu	Met	Lys	Leu	Arg	Asn
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Lys	Arg	Glu	Thr	Lys	Met	Arg	Gly	Met	Met	Ala	Lys	Gln	Glu	Gly	Met
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Glu	Met	Lys	Leu	Gln	Val	Thr	Gln	Arg	Ser	Leu	Glu	Glu	Ser	Gln	Gly
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Lys	Ile	Ala	Gln	Leu	Glu	Gly	Lys	Leu	Val	Ser	Ile	Glu	Lys	Glu	Lys
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Ile	Asp	Glu	Lys	Ser	Glu	Thr	Glu	Lys	Leu	Leu	Glu	Tyr	Ile	Glu	Glu
225					230					235					240
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			260					265					270		
Lys	Gln	Ser	Leu	Glu	Asp	Asn	Ile	Val	Ile	Leu	Ser	Lys	Gln	Val	Glu
		275					280					285			
Asp	Leu	Asn	Val	Lys	Cys	Gln	Leu	Leu	Glu	Thr	Glu	Lys	Glu	Asp	His
	290					295					300				
Val	Asn	Arg	Asn	Arg	Glu	His	Asn	Glu	Asn	Leu	Asn	Ala	Glu	Met	Gln
305					310					315					320
Asn	Leu	Glu	Gln	Lys	Phe	Ile	Leu	Glu	Gln	Arg	Glu	His	Glu	Lys	Leu
				325					330					335	
Gln	Gln	Lys	Glu	Leu	Gln	Ile	Asp	Ser	Leu	Leu	Gln	Gln	Glu	Lys	Glu
			340					345					350		
Leu	Ser	Ser	Ser	Leu	His	Gln	Lys	Leu	Cys	Ser	Phe	Gln	Glu	Glu	Met
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Val	Lys	Glu	Lys	Asn	Leu	Phe	Glu	Glu	Glu	Leu	Lys	Gln	Thr	Leu	Asp
	370					375					380				
Glu	Leu	Asp	Lys	Leu	Gln	Lys	Glu	Glu	Gln	Ala	Glu	Arg	Leu	Val	
385					390				395					400	
Lys	Gln	Leu	Glu	Glu	Glu	Ala	Lys	Ser	Arg	Ala	Glu	Glu	Leu	Lys	Leu
				405					410					415	
Leu	Glu	Glu	Lys	Leu	Lys	Gly	Lys	Glu	Ala	Glu	Leu	Glu	Lys	Ser	Ser
			420					425					430		
Ala	Ala	His	Thr	Gln	Ala	Thr	Leu	Leu	Leu	Gln	Glu	Lys	Tyr	Asp	Ser
		435													

Leu Lys Gln Gln Glu Glu Asp Phe Arg Lys Gln Leu Glu Asp Glu Glu
 545 550 555 560
 Gly Arg Lys Ala Glu Lys Glu Asn Thr Thr Ala Glu Leu Thr Glu Glu
 565 570 575
 Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu Tyr Asn Lys Thr Lys
 580 585 590
 Pro Phe Gln Leu Gln Leu Asp Ala Phe Glu Val Glu Lys Gln Ala Leu
 595 600 605
 Leu Asn Glu His Gly Ala Ala Gln Glu Gln Leu Asn Lys Ile Arg Asp
 610 615 620
 Ser Tyr Ala Lys Leu Leu Gly His Gln Asn Leu Lys Gln Lys Ile Lys
 625 630 635 640
 His Val Val Lys Leu Lys Asp Glu Asn Ser Gln Leu Lys Ser Glu Val
 645 650 655
 Ser Lys Leu Arg Cys Gln Leu Ala Lys Lys Lys Gln Ser Glu Thr Lys
 660 665 670
 Leu Gln Glu Glu Leu Asn Lys Val Leu Gly Ile Lys His Phe Asp Pro
 675 680 685
 Ser Lys Ala Phe His His Glu Ser Lys Glu Asn Phe Ala Leu Lys Thr
 690 695 700
 Pro Leu Lys Glu Gly Asn Thr Asn Cys Tyr Arg Ala Pro Met Glu Cys
 705 710 715 720
 Gln Glu Ser Trp Lys
 725

<210> 48
 <211> 631
 <212> PRT
 <213> Homo sapien

<400> 48
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 20 25 30
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 35 40 45
 Val Gln Leu Glu Gly Lys Leu Val Ser Ile Glu Lys Glu Lys Ile Asp
 50 55 60
 Glu Lys Cys Glu Thr Glu Lys Leu Leu Glu Tyr Ile Gln Glu Ile Ser
 65 70 75 80
 Cys Ala Ser Asp Gln Val Glu Lys Cys Lys Val Asp Ile Ala Gln Leu
 85 90 95
 Glu Glu Asp Leu Lys Glu Lys Asp Arg Glu Ile Leu Ser Leu Lys Gln
 100 105 110
 Ser Leu Glu Glu Asn Ile Thr Phe Ser Lys Gln Ile Glu Asp Leu Thr
 115 120 125
 Val Lys Cys Gln Leu Leu Glu Thr Glu Arg Asn Asp Leu Val Ser Lys
 130 135 140
 Asp Arg Glu Arg Ala Glu Thr Leu Ser Ala Glu Met Gln Ile Leu Thr
 145 150 155 160
 Glu Arg Leu Ala Leu Glu Arg Gln Glu Tyr Glu Lys Leu Gln Gln Lys
 165 170 175
 Glu Leu Gln Ser Gln Ser Leu Leu Gln Glu Lys Glu Leu Ser Ala
 180 185 190
 Arg Leu Gln Gln Gln Leu Cys Ser Phe Gln Glu Glu Met Thr Ser Glu

Page 18

<210> 49
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 <212> PRT
 <213> Homo sapien

<400> 49
 Val Ser Ile Glu Lys Glu Lys Ile Asp Glu Lys
 1 5 10

<210> 50
 <211> 21
 <212> PRT
 <213> Unknown

<220>
 <223> Peptide used in competition binding assay

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 1 5 10 15
 Gln Leu Glu Ser Val
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<210> 51
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 <212> PRT
 <213> Unknown

<220>
 <223> Peptide used in competition binding assay

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 Leu Lys Ser Glu Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg Lys
 20 25 30

<210> 52
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer for PCR amplification of collagen I

<400> 52
 cgatgtcgct atccagctga

20

<210> 53
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Primer for PCR amplication of collagen III

<400> 53

atcagtcagc catctaccac c

21

<210> 54

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR amplication of ED-1

<400> 54

tggcaggaca gtagtcgc

18

<210> 55

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR amplication of ED-1

<400> 55

aaggctgctg ttgaaaggac g

21

<210> 56

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide that binds a hyalauronan

<400> 56

Arg Gly Gly Gly Arg Gly Gly Arg Arg
1 5

<210> 57

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide that binds a hyalauronan

<400> 57

Arg Gly Gly Gly Arg Gly Gly Gly Arg
1 5

<210> 58

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Peptide that binds a hyalauronan

<400> 58

Arg Gly Gly Gly Gly Gly Gly Gly Arg

1

5

<210> 59

<211> 9

<212> PRT

<213> Homo sapien

<400> 59

Lys Leu Arg Ser Gln Leu Val Lys Arg

1

5

<210> 60

<211> 9

<212> PRT

<213> Homo sapien

<400> 60

Lys Gln Lys Ile Lys His Val Val Lys

1

5

<210> 61

<211> 9

<212> PRT

<213> Homo sapien

<400> 61

Arg Ser His Lys Thr Arg Ser His His

1

5

<210> 62

<211> 7

<212> PRT

<213> Homo sapien

<400> 62

Arg Pro His Phe His Lys Arg

1

5

<210> 63

<211> 11

<212> PRT

<213> Homo sapien

<400> 63

Arg Lys Ile Gln Lys His Lys Thr Ile Pro Lys

1

5

10

<210> 64
<211> 9
<212> PRT
<213> Homo sapien

<400> 64
Lys Val Gly Arg Lys Val Phe Ser Lys
1 5

<210> 65
<211> 9
<212> PRT
<213> Homo sapien

<400> 65
Lys Cys Ser Val Gln Thr Leu Leu Arg
1 5

<210> 66
<211> 9
<212> PRT
<213> Homo sapien

<400> 66
Arg Thr His Leu Lys His Val Leu Arg
1 5

<210> 67
<211> 9
<212> PRT
<213> Homo sapien

<400> 67
Lys Asn Ala Ile Asn Asn Gly Val Arg
1 5

<210> 68
<211> 9
<212> PRT
<213> Homo sapien

<400> 68
Lys Gly Gln Ile Asn Asn Ser Ile Lys
1 5

<210> 69
<211> 9
<212> PRT
<213> Homo sapien

<400> 69
Arg Val Arg Gly Arg Ala Lys Leu Arg

1

5

<210> 70
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Peptide that binds a hyalauronan

<400> 70
 Ser Thr Met Met Ser Arg Ser His Lys Thr Arg Ser His His Val
 1 5 10 15

<210> 71
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Peptide that binds a hyalauronan

<400> 71
 Cys Ser Thr Met Met Ser Arg Ser His Lys Thr Arg Ser His His Val
 1 5 10 15
 Cys Ser Thr Met Met Ser Arg Ser His Lys Thr Arg Ser His His Val
 20 25 30

<210> 72
 <211> 12
 <212> PRT
 <213> Homo sapien

<400> 72
 Gly Ala His Trp Gln Phe Asn Ala Leu Thr Val Arg
 1 5 10

<210> 73
 <211> 333
 <212> PRT
 <213> Mus musculus

<400> 73
 Ala Gln Ala Ile Leu Ile Ala Gln Glu Lys Tyr Asn Asp Thr Ala Gln
 1 5 10 15
 Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Val Gln Glu Lys Tyr
 20 25 30
 Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser
 35 40 45
 Glu Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr
 50 55 60
 Ala Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser
 65 70 75 80

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Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Val Gln Glu Lys Tyr Asn
      85      90      95
Asp Thr Ala Gln Ser Leu Arg Asp Val Ser Ala Gln Leu Glu Ser Tyr
      100     105     110
Lys Ser Ser Thr Leu Lys Glu Ile Glu Asp Leu Lys Leu Glu Asn Leu
      115     120     125
Thr Leu Gln Glu Lys Val Ala Met Ala Glu Lys Ser Val Glu Asp Val
      130     135     140
Gln Gln Gln Ile Leu Thr Ala Glu Ser Thr Asn Gln Glu Tyr Ala Arg
      145     150     155     160
Met Val Gln Asp Leu Gln Asn Arg Ser Thr Leu Lys Glu Glu Glu Ile
      165     170     175
Lys Glu Ile Thr Ser Ser Phe Leu Glu Lys Ile Thr Asp Leu Lys Asn
      180     185     190
Gln Leu Arg Gln Gln Asp Glu Asp Phe Arg Lys Gln Leu Glu Glu Lys
      195     200     205
Gly Lys Arg Thr Ala Glu Lys Glu Asn Val Met Thr Glu Leu Thr Met
      210     215     220
Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu Tyr Glu Lys Thr
      225     230     235     240
Lys Pro Phe Gln Gln Gln Leu Asp Ala Phe Glu Ala Glu Lys Gln Ala
      245     250     255
Leu Leu Asn Glu His Gly Ala Thr Gln Glu Gln Leu Asn Lys Ile Arg
      260     265     270
Asp Ser Tyr Ala Gln Leu Leu Gly His Gln Asn Leu Lys Gln Lys Ile
      275     280     285
Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln Leu Lys Ser Glu
      290     295     300
Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg Lys Gln Asn Glu Leu
      305     310     315     320
Arg Leu Gln Gly Glu Leu Asp Lys Ala Leu Gly Ile Arg
      325     330

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<210> 74
 <211> 242
 <212> PRT
 <213> Homo sapien

<400> 74

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Gln Glu Lys Tyr Asp Ser Met Val Gln Ser Leu Glu Asp Val Thr Ala
  1      5      10      15
Gln Phe Glu Ser Tyr Lys Ala Leu Thr Ala Ser Glu Ile Glu Asp Leu
  20      25      30
Lys Leu Glu Asn Ser Ser Leu Gln Glu Lys Ala Ala Lys Ala Gly Lys
  35      40      45
Asn Ala Glu Asp Val Gln His Gln Ile Leu Ala Thr Glu Ser Ser Asn
  50      55      60
Gln Glu Tyr Val Arg Met Leu Leu Asp Leu Gln Thr Lys Ser Ala Leu
  65      70      75      80
Lys Glu Thr Glu Ile Lys Glu Ile Thr Val Ser Phe Leu Gln Lys Ile
  85      90      95
Thr Asp Leu Gln Asn Gln Leu Lys Gln Gln Glu Glu Asp Phe Arg Lys
  100     105     110
Gln Leu Glu Asp Glu Glu Gly Arg Lys Ala Glu Lys Glu Asn Thr Thr
  115     120     125
Ala Glu Leu Thr Glu Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu

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130		135		140
Leu Tyr Asn Lys Thr Lys Pro Phe Gln Ile Gln Leu Asp Ala Phe Glu				
145		150		155
Val Glu Lys Gln Ala Leu Leu Asn Glu His Gly Ala Ala Gln Glu Gln				160
		165		170
Leu Asn Lys Ile Arg Asp Ser Tyr Ala Lys Leu Leu Gly His Gln Asn				175
		180		185
Leu Lys Gln Lys Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser				190
		195		200
Gln Leu Lys Ser Glu Val Ser Lys Leu Arg Cys Gln Leu Ala Lys Lys				205
		210		215
Lys Gln Ser Glu Thr Lys Leu Gln Glu Glu Leu Asn Lys Val Leu Gly				220
225		230		235
Ile Lys				240

<210> 75
 <211> 221
 <212> PRT
 <213> Mus musculus

<400> 75
Lys Ser Ser Thr Leu Lys Glu Ile Glu Asp Leu Lys Leu Glu Asn Leu
1 5 10 15
Thr Leu Gln Glu Lys Val Ala Met Ala Glu Lys Ser Val Glu Asp Val
20 25 30
Gln Gln Gln Ile Leu Thr Ala Glu Ser Thr Asn Gln Glu Tyr Ala Arg
35 40 45
Met Val Gln Asp Leu Gln Asn Arg Ser Thr Leu Lys Glu Glu Glu Ile
50 55 60
Lys Glu Ile Thr Ser Ser Phe Leu Glu Lys Ile Thr Asp Leu Lys Asn
65 70 75 80
Gln Leu Arg Gln Gln Asp Glu Asp Phe Arg Lys Gln Leu Glu Glu Lys
85 90 95
Gly Lys Arg Thr Ala Glu Lys Glu Asn Val Met Thr Glu Leu Thr Met
100 105 110
Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu Tyr Glu Lys Thr
115 120 125
Lys Pro Phe Gln Gln Gln Leu Asp Ala Phe Glu Ala Glu Lys Gln Ala
130 135 140
Leu Leu Asn Glu His Gly Ala Thr Gln Glu Gln Leu Asn Lys Ile Arg
145 150 155 160
Asp Ser Tyr Ala Gln Leu Leu Gly His Gln Asn Leu Lys Gln Lys Ile
165 170 175
Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln Leu Lys Ser Glu
180 185 190
Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg Lys Gln Asn Glu Leu
195 200 205
Arg Leu Gln Gly Glu Leu Asp Lys Ala Leu Gly Ile Arg
210 215 220

<210> 76
 <211> 221
 <212> PRT
 <213> Homo sapien

<400> 76

Lys Ala Leu Thr Ala Ser Glu Ile Glu Asp Leu Lys Leu Glu Asn Ser
 1 5 10 15
 Ser Leu Gln Glu Lys Ala Ala Lys Ala Gly Lys Asn Ala Glu Asp Val
 20 25 30
 Gln His Gln Ile Leu Ala Thr Glu Ser Ser Asn Gln Glu Tyr Val Arg
 35 40 45
 Met Leu Leu Asp Leu Gln Thr Lys Ser Ala Leu Lys Glu Thr Glu Ile
 50 55 60
 Lys Glu Ile Thr Val Ser Phe Leu Gln Lys Ile Thr Asp Leu Gln Asn
 65 70 75 80
 Gln Leu Lys Gln Gln Glu Glu Asp Phe Arg Lys Gln Leu Glu Asp Glu
 85 90 95
 Glu Gly Arg Lys Ala Glu Lys Glu Asn Thr Thr Ala Glu Leu Thr Glu
 100 105 110
 Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu Tyr Asn Lys Thr
 115 120 125
 Lys Pro Phe Gln Ile Gln Leu Asp Ala Phe Glu Val Glu Lys Gln Ala
 130 135 140
 Leu Leu Asn Glu His Gly Ala Ala Gln Glu Gln Leu Asn Lys Ile Arg
 145 150 155 160
 Asp Ser Tyr Ala Lys Leu Leu Gly His Gln Asn Leu Lys Gln Lys Ile
 165 170 175
 Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln Leu Lys Ser Glu
 180 185 190
 Val Ser Lys Leu Arg Cys Gln Leu Ala Lys Lys Lys Gln Ser Glu Thr
 195 200 205
 Lys Leu Gln Glu Glu Leu Asn Lys Val Leu Gly Ile Lys
 210 215 220

<210> 77

<211> 476

<212> PRT

<213> Mus musculus

<400> 77

Met Gln Ile Leu Thr Glu Arg Leu Ala Leu Glu Arg Gln Glu Tyr Glu
 1 5 10 15
 Lys Leu Gln Gln Lys Glu Leu Gln Ser Gln Ser Leu Leu Gln Gln Glu
 20 25 30
 Lys Glu Leu Ser Ala Arg Leu Gln Gln Gln Leu Cys Ser Phe Gln Glu
 35 40 45
 Glu Met Thr Ser Glu Lys Asn Val Phe Lys Glu Glu Leu Lys Leu Ala
 50 55 60
 Leu Glu Leu Asp Ala Val Gln Gln Lys Glu Glu Gln Ser Glu Arg Leu
 65 70 75 80
 Val Lys Gln Leu Glu Glu Glu Arg Lys Ser Thr Ala Glu Gln Leu Thr
 85 90 95
 Arg Leu Asp Asn Leu Leu Arg Glu Lys Glu Val Glu Leu Glu Lys His
 100 105 110
 Ile Ala Ala His Ala Gln Ala Ile Leu Ile Ala Gln Glu Lys Tyr Asn
 115 120 125
 Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Val
 130 135 140
 Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala
 145 150 155 160

Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu
 165 170 175
 Arg Asp Val Thr Ala Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn Asp
 180 185 190
 Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Val Gln
 195 200 205
 Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Ser Ala Gln
 210 215 220
 Leu Glu Ser Tyr Lys Ser Ser Thr Leu Lys Glu Ile Glu Asp Leu Lys
 225 230 235 240
 Leu Glu Asn Leu Thr Leu Gln Glu Lys Val Ala Met Ala Glu Lys Ser
 245 250 255
 Val Glu Asp Val Gln Gln Gln Ile Leu Thr Ala Glu Ser Thr Asn Gln
 260 265 270
 Glu Tyr Ala Arg Met Val Gln Asp Leu Gln Asn Arg Ser Thr Leu Lys
 275 280 285
 Glu Glu Glu Ile Lys Glu Ile Thr Ser Ser Phe Leu Glu Lys Ile Thr
 290 295 300
 Asp Leu Lys Asn Gln Leu Arg Gln Gln Asp Glu Asp Phe Arg Lys Gln
 305 310 315 320
 Leu Glu Glu Lys Gly Lys Arg Thr Ala Glu Lys Glu Asn Val Met Thr
 325 330 335
 Glu Leu Thr Met Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu
 340 345 350
 Tyr Glu Lys Thr Lys Pro Phe Gln Gln Gln Leu Asp Ala Phe Glu Ala
 355 360 365
 Glu Lys Gln Ala Leu Leu Asn Glu His Gly Ala Thr Gln Glu Gln Leu
 370 375 380
 Asn Lys Ile Arg Asp Ser Tyr Ala Gln Leu Leu Gly His Gln Asn Leu
 385 390 395 400
 Lys Gln Lys Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln
 405 410 415
 Leu Lys Ser Glu Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg Lys
 420 425 430
 Gln Asn Glu Leu Arg Leu Gln Gly Glu Leu Asp Lys Ala Leu Gly Ile
 435 440 445
 Arg His Phe Asp Pro Ser Lys Ala Phe Cys His Ala Ser Lys Glu Asn
 450 455 460
 Phe Thr Pro Leu Lys Glu Gly Asn Pro Asn Cys Cys
 465 470 475

<210> 78
 <211> 407
 <212> PRT
 <213> Homo sapien

<400> 78
 Met Gln Asn Leu Lys Gln Lys Phe Ile Leu Glu Gln Gln Glu His Glu
 1 5 10 15
 Lys Leu Gln Gln Lys Glu Leu Gln Ile Asp Ser Leu Leu Gln Gln Glu
 20 25 30
 Lys Glu Leu Ser Ser Ser Leu His Gln Lys Leu Cys Ser Phe Gln Glu
 35 40 45
 Glu Met Val Lys Glu Lys Asn Leu Phe Glu Glu Glu Leu Lys Gln Thr
 50 55 60
 Leu Asp Glu Leu Asp Lys Leu Gln Gln Lys Glu Glu Gln Ala Glu Arg

65 70 75 80
 Leu Val Lys Gln Leu Glu Glu Glu Ala Lys Ser Arg Ala Glu Glu Leu
 85 90 95
 Lys Leu Leu Glu Glu Lys Leu Lys Gly Lys Glu Ala Glu Leu Glu Lys
 100 105 110
 Ser Ser Ala Ala His Thr Gln Ala Thr Leu Leu Leu Gln Glu Lys Tyr
 115 120 125
 Asp Ser Met Val Gln Ser Leu Glu Asp Val Thr Ala Gln Phe Glu Ser
 130 135 140
 Tyr Lys Ala Leu Thr Ala Ser Glu Ile Glu Asp Leu Lys Leu Glu Asn
 145 150 155 160
 Ser Ser Leu Gln Glu Lys Ala Ala Lys Ala Gly Lys Asn Ala Glu Asp
 165 170 175
 Val Gln His Gln Ile Leu Ala Thr Glu Ser Ser Asn Gln Glu Tyr Val
 180 185 190
 Arg Met Leu Leu Asp Leu Gln Thr Lys Ser Ala Leu Lys Glu Thr Glu
 195 200 205
 Ile Lys Glu Ile Thr Val Ser Phe Leu Gln Lys Ile Thr Asp Leu Gln
 210 215 220
 Asn Gln Leu Lys Gln Gln Glu Glu Asp Phe Arg Lys Gln Leu Glu Asp
 225 230 235 240
 Glu Glu Gly Arg Lys Ala Glu Lys Glu Asn Thr Thr Ala Glu Leu Thr
 245 250 255
 Glu Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu Tyr Asn Lys
 260 265 270
 Thr Lys Pro Phe Gln Leu Gln Leu Asp Ala Phe Glu Val Glu Lys Gln
 275 280 285
 Ala Leu Leu Asn Glu His Gly Ala Ala Gln Glu Gln Leu Asn Lys Ile
 290 295 300
 Arg Asp Ser Tyr Ala Lys Leu Leu Gly His Gln Asn Leu Lys Gln Lys
 305 310 315 320
 Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln Leu Lys Ser
 325 330 335
 Glu Val Ser Lys Leu Arg Cys Gln Leu Ala Lys Lys Lys Gln Ser Glu
 340 345 350
 Thr Lys Leu Gln Glu Glu Leu Asn Lys Val Leu Gly Ile Lys His Phe
 355 360 365
 Asp Pro Ser Lys Ala Phe His His Glu Ser Lys Glu Asn Phe Ala Leu
 370 375 380
 Lys Thr Pro Leu Lys Glu Gly Asn Thr Asn Cys Tyr Arg Ala Pro Met
 385 390 395 400
 Glu Cys Gln Glu Ser Trp Lys
 405

<210> 79
 <211> 476
 <212> PRT
 <213> Mus musculus

<400> 79
 Met Gln Ile Leu Thr Glu Arg Leu Ala Leu Glu Arg Gln Glu Tyr Glu
 1 5 10 15
 Lys Leu Gln Gln Lys Glu Leu Gln Ser Gln Ser Leu Leu Gln Gln Glu
 20 25 30
 Lys Glu Leu Ser Ala Arg Leu Gln Gln Gln Leu Cys Ser Phe Gln Glu
 35 40 45

Glu Met Thr Ser Glu Lys Asn Val Phe Lys Glu Glu Leu Lys Leu Ala
 50 55 60
 Leu Ala Glu Leu Asp Ala Val Gln Gln Lys Glu Glu Gln Ser Glu Arg
 65 70 75 80
 Leu Val Lys Gln Leu Glu Glu Glu Arg Lys Ser Thr Ala Glu Gln Leu
 85 90 95
 Thr Arg Leu Asp Asn Leu Leu Arg Glu Lys Glu Val Glu Leu Glu Lys
 100 105 110
 His Ile Ala Ala His Ala Gln Ala Ile Leu Ile Ala Gln Glu Lys Tyr
 115 120 125
 Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser
 130 135 140
 Val Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr
 145 150 155 160
 Ala Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser
 165 170 175
 Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn
 180 185 190
 Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Val
 195 200 205
 Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala
 210 215 220
 Gln Leu Glu Ser Tyr Lys Ser Ser Thr Leu Lys Glu Ile Glu Asp Leu
 225 230 235 240
 Lys Leu Glu Asn Leu Thr Leu Gln Glu Lys Val Ala Met Ala Glu Lys
 245 250 255
 Ser Val Glu Asp Val Gln Gln Gln Ile Leu Thr Ala Glu Ser Thr Asn
 260 265 270
 Gln Glu Tyr Ala Arg Met Val Gln Asp Leu Gln Asn Arg Ser Thr Leu
 275 280 285
 Lys Glu Glu Glu Ile Lys Glu Thr Ser Ser Phe Leu Glu Lys Ile Thr
 290 295 300
 Asp Leu Lys Asn Gln Leu Arg Gln Gln Asp Glu Asp Phe Arg Lys Gln
 305 310 315 320
 Leu Glu Glu Lys Gly Lys Arg Thr Ala Glu Lys Glu Asn Val Met Thr
 325 330 335
 Glu Leu Thr Met Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu Leu
 340 345 350
 Tyr Glu Lys Thr Lys Pro Phe Gln Gln Gln Leu Asp Ala Phe Glu Ala
 355 360 365
 Glu Lys Gln Ala Leu Leu Asn Glu His Gly Ala Thr Gln Glu Gln Leu
 370 375 380
 Asn Lys Ile Arg Asp Ser Tyr Ala Gln Leu Leu Gly His Gln Asn Leu
 385 390 395 400
 Lys Gln Lys Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln
 405 410 415
 Leu Lys Ser Glu Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg Lys
 420 425 430
 Gln Asn Glu Leu Arg Leu Gln Gly Glu Leu Asp Lys Ala Leu Gly Ile
 435 440 445
 Arg His Phe Asp Pro Ser Lys Ala Phe Cys His Ala Ser Lys Glu Asn
 450 455 460
 Phe Thr Pro Leu Lys Glu Gly Asn Pro Asn Cys Cys
 465 470 475

<210> 80

<211> 435
 <212> PRT
 <213> Mus musculus

<400> 80

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Met Gln Ile Leu Thr Glu Arg Leu Ala Leu Glu Arg Gln Glu Tyr Glu
 1          5          10          15
Lys Leu Gln Gln Lys Glu Leu Gln Ser Gln Ser Leu Leu Gln Glu
 20          25          30
Lys Glu Leu Ser Ala Arg Leu Gln Gln Gln Leu Cys Ser Phe Gln Glu
 35          40          45
Glu Met Thr Ser Glu Lys Asn Val Phe Lys Glu Glu Leu Lys Leu Ala
 50          55          60
Leu Ala Glu Leu Asp Ala Val Gln Gln Lys Glu Glu Gln Ser Glu Arg
 65          70          75          80
Leu Val Lys Gln Leu Glu Glu Glu Arg Lys Ser Thr Ala Glu Gln Leu
 85          90          95
Thr Arg Leu Asp Asn Leu Leu Arg Glu Lys Glu Val Glu Leu Glu Lys
100          105          110
His Ile Ala Ala His Ala Gln Ala Ile Leu Ile Ala Gln Glu Lys Tyr
115          120          125
Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser
130          135          140
Val Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Thr
145          150          155          160
Ala Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser
165          170          175
Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Glu Gln Glu Lys Tyr Asn
180          185          190
Asp Thr Ala Gln Ser Leu Arg Asp Val Thr Ala Gln Leu Glu Ser Val
195          200          205
Gln Glu Lys Tyr Asn Asp Thr Ala Gln Ser Leu Arg Asp Val Ser Ala
210          215          220
Gln Leu Glu Ser Tyr Lys Ser Ser Thr Leu Lys Glu Ile Glu Asp Leu
225          230          235          240
Lys Leu Glu Asn Leu Thr Leu Gln Glu Lys Val Ala Met Ala Glu Lys
245          250          255
Ser Val Glu Asp Val Gln Gln Gln Ile Leu Thr Ala Glu Ser Thr Asn
260          265          270
Gln Glu Tyr Ala Arg Met Val Gln Asp Leu Gln Asn Arg Ser Thr Leu
275          280          285
Lys Glu Glu Glu Ile Lys Glu Ile Thr Ser Ser Phe Leu Glu Lys Ile
290          295          300
Thr Asp Leu Lys Asn Gln Leu Arg Gln Gln Asp Glu Asp Phe Arg Lys
305          310          315          320
Gln Leu Glu Glu Lys Gly Lys Arg Thr Ala Glu Lys Glu Asn Val Met
325          330          335
Thr Glu Leu Thr Met Glu Ile Asn Lys Trp Arg Leu Leu Tyr Glu Glu
340          345          350
Leu Tyr Glu Lys Thr Lys Pro Phe Gln Gln Gln Leu Asp Ala Phe Glu
355          360          365
Ala Glu Lys Gln Ala Leu Leu Asn Glu His Gly Ala Thr Gln Glu Gln
370          375          380
Leu Asn Lys Ile Arg Asp Ser Tyr Ala Gln Leu Leu Gly His Gln Asn
385          390          395          400
Leu Lys Gln Lys Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser
405          410          415

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Gln Leu Lys Ser Glu Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg
 420 425 430
 Lys Gln Asn
 435

<210> 81
 <211> 32
 <212> PRT
 <213> Homo sapien

<400> 81
 Lys Gln Lys Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln
 1 5 10 15
 Leu Lys Ser Glu Val Ser Lys Leu Arg Cys Gln Leu Ala Lys Lys Lys
 20 25 30

<210> 82
 <211> 32
 <212> PRT
 <213> Mus musculus

<400> 82
 Lys Gln Lys Ile Lys His Val Val Lys Leu Lys Asp Glu Asn Ser Gln
 1 5 10 15
 Leu Lys Ser Glu Val Ser Lys Leu Arg Ser Gln Leu Val Lys Arg Lys
 20 25 30

<210> 83
 <211> 352
 <212> PRT
 <213> Homo sapien

<400> 83
 Met Gln Asn Leu Lys Gln Lys Phe Ile Leu Glu Gln Gln Glu Arg Glu
 1 5 10 15
 Lys Leu Gln Gln Lys Glu Leu Gln Ile Asp Ser Leu Leu Gln Glu
 20 25 30
 Lys Glu Leu Ser Ser Ser Leu His Gln Lys Leu Cys Ser Phe Gln Glu
 35 40 45
 Glu Met Ala Lys Glu Lys Asn Leu Phe Glu Glu Glu Leu Lys Gln Thr
 50 55 60
 Leu Asp Glu Leu Asp Lys Leu Gln Gln Lys Glu Glu Gln Ala Glu Arg
 65 70 75 80
 Leu Val Lys Gln Leu Glu Glu Glu Ala Lys Ser Arg Ala Glu Glu Leu
 85 90 95
 Lys Leu Leu Glu Glu Lys Leu Lys Gly Lys Glu Ala Glu Leu Glu Lys
 100 105 110
 Ser Ser Ala Ala His Thr Gln Ala Thr Leu Leu Leu Gln Glu Lys Tyr
 115 120 125
 Asp Ser Met Val Gln Ser Leu Glu Asp Val Thr Ala Gln Phe Glu Ser
 130 135 140
 Tyr Lys Ala Leu Thr Ala Ser Glu Ile Glu Asp Leu Lys Leu Glu Asn
 145 150 155 160
 Ser Ser Leu Gln Glu Lys Ala Val Ala Lys Ala Gly Lys Asn Ala Glu

Asp	Val	Gln	His	165	Gln	Ile	Leu	Ala	Thr	170	Glu	Ser	Ser	Asn	Gln	175	Glu	Tyr
			180						185						190			
Val	Arg	Met	Leu	Leu	Asp	Leu	Gln	Thr	Lys	Ser	Ala	Leu	Lys	Glu	Thr			
	195						200						205					
Glu	Ile	Lys	Glu	Ile	Thr	Val	Ser	Phe	Leu	Gln	Lys	Ile	Thr	Asp	Leu			
	210						215					220						
Gln	Asn	Gln	Leu	Lys	Gln	Gln	Glu	Glu	Asp	Phe	Arg	Lys	Gln	Leu	Glu			
225					230					235					240			
Asp	Glu	Glu	Gly	Arg	Lys	Ala	Glu	Lys	Glu	Asn	Thr	Thr	Ala	Glu	Leu			
			245						250						255			
Thr	Glu	Glu	Ile	Asn	Lys	Trp	Arg	Leu	Leu	Tyr	Glu	Glu	Leu	Tyr	Asn			
		260						265					270					
Lys	Thr	Lys	Pro	Phe	Gln	Leu	Gln	Leu	Asp	Ala	Phe	Glu	Val	Glu	Lys			
	275						280					285						
Gln	Ala	Leu	Leu	Asn	Glu	His	Gly	Ala	Ala	Gln	Glu	Gln	Leu	Asn	Lys			
	290					295					300							
Ile	Arg	Asp	Ser	Tyr	Ala	Lys	Leu	Leu	Gly	His	Gln	Asn	Leu	Lys	Gln			
305					310					315					320			
Lys	Ile	Lys	His	Val	Val	Lys	Leu	Lys	Asp	Glu	Asn	Ser	Gln	Leu	Lys			
			325						330					335				
Ser	Glu	Val	Ser	Lys	Leu	Arg	Cys	Gln	Leu	Ala	Lys	Lys	Lys	Thr	Lys			
		340						345						350				

<210> 84
 <211> 11
 <212> PRT
 <213> Mus musculus

<400> 84
 Val Ser Ile Glu Lys Glu Lys Ile Asp Glu Lys
 1 5 10